DRAFT

DEPARTMENT OF ECOLOGY
State of Washington

Issuance Date: _____
Effective Date: _____
Expiration Date: _____

RECLAIMED WATER PERMIT NUMBER ST6216

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
OLYMPIA, WASHINGTON 98504-7775

In compliance with the provisions of the
State of Washington Reclaimed Water Act, Chapter 90.46 Revised Code of Washington
and the
Water Pollution Control Law Chapter 90.48 Revised Code of Washington, as amended,

STATE OF WASHINGTON
DEPARTMENT OF HEALTH

In compliance with the provisions of
Chapter 90.46 and 43.70 Revised Code of Washington
authorizes the

City of Shelton
525 West Cota
Shelton, WA 98584

to use reclaimed water in accordance with the special and general conditions which follow.

Plant Location: 10891 State Route 101 Shelton, WA 98584	Use Area Location: Legal Description : Section 4, T20N, R4W, S-1/2 of the SE ¼ lying west of the R/W of SR 102
Treatment Type; Membrane Bioreactor (MBR), Class A Reclaimed Water	Latitude: 47.2485 N Longitude: 123.190 W

Garin Schrieve, P.E.
Southwest Regional Manager
Water Quality Program
Washington State Department of Ecology

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GENERAL CONDITIONS

SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A.	Discharge Monitoring Report (DMR)	Monthly	*Reserved for Issuance*
S3.E.	Noncompliance Notification	As needed	
S3.F.3.	Monthly Summary of Operating Records	Monthly with DMR	
S4.C.	Wasteload Assessment	Annual	March 15, 2011
S5.G.	Operations and Maintenance Manual	1/permit cycle	*Reserved for Issuance*
S5.G.	Operation and Maintenance Manual Update/Review Letter	Annual	March 15, 2011
S7.C.	Notification of Industrial Users	As needed	
S8.B.	Water Reuse Plan	1/permit cycle Update as needed	*Reserved for Issuance*
S8.G.	Service and Use Area Agreement	As needed	Prior to Use
S9.	Application for permit renewal	1/permit cycle	*Reserved for Issuance*
G1.	Signature Authority	As needed	

DMRs and Reclaimed Water Reports shall be submitted to the following addresses:

1. Department of Ecology, Permit Coordinator, Southwest Regional Office, P.O. Box 47775, Olympia, Washington 98504-7775
2. Department of Health, Wastewater Management Program, 16201 E. Indiana Ave, Suite 1500, Spokane Valley, Washington 99216

SPECIAL CONDITIONS

S1. WATER QUALITY LIMITATIONS

All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a concentration in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

The production and use of reclaimed water must be in compliance with all specific conditions and requirements of the Washington State Water Reclamation and Reuse Standards, 1997, and is subject to the requirements listed below:

Beginning on the effective date and lasting through the expiration date of this permit, the Permittee is authorized to distribute Class A reclaimed water to public and private entities for commercial and industrial uses, to apply reclaimed water to land for irrigation at agronomic rates, and/or for groundwater recharge by surface percolation at locations listed in Condition S8. The distribution and use of reclaimed water is subject to the following treatment and water quality limitations:

Reclaimed Water Limitations		
Parameter	**Average Monthly [a]**	
Flow	0.4 MGD	Reclaimed Water Production
Reclaimed Water - Prior to Disinfection		
Parameter	**Average Monthly [a]**	**Sample Maximum [b]**
Turbidity	0.2 NTU	0.5 NTU
Disinfected - Reclaimed Water		
Parameter	**Average Monthly [a]**	**Average Weekly [c]**
BOD_5	20 mg/L	30 mg/L
TSS	30 mg/L	45 mg/L
Dissolved Oxygen	Shall be measurably present in effluent at all times	
Parameter	**Average Monthly [a]**	**Sample Maximum [b]**
Total Nitrogen as N	10 mg/L	15 mg/L
Parameter	**7-day Median [d]**	**Sample Maximum [e]**
Total Coliform	2.2 MPN/100 ml	23 MPN/100 ml
pH	Shall be between 6.0 and 9.0 standard units at all times	
Distribution System		
Parameter	**Minimum Daily [f]**	
Chlorine Residual	0.5 mg/L	

Reclaimed Water Limitations
[a] The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
[b] The sample maximum is defined as the value not to be exceeded by any single sample.
[c] The average weekly effluent limitation is defined as the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.
[d] The median number of total coliform organisms in the reclaimed water after disinfection shall not exceed 2.2 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed.
[e] The number of total coliform organisms shall not exceed 23 per 100 milliliters in any single sample. Substandard water may still be sent to the sprayfield, but at no time should the substandard water exceed total coliform organisms of 100 per 100 milliliters in any single sample.
[f] A free chlorine residual of at least 0.5 mg/L shall be maintained in the reclaimed water during conveyance to the use area, or the storage pond if reclaimed water is not directly piped to the use area.

The Permittee is also authorized to discharge substandard water by irrigation at the sprayfield, subject to the limits above for BOD_5, TSS, D.O., Total Nitrogen, and a sample maximum total coliform limit of 100 organisms per 100 mL. The turbidity limits do not apply to this substandard water.

GROUND WATER ENFORCEMENT LIMITATIONS AT WCC-1 AND MW-9:	
Primary Drinking Water Criteria	**Sample Maximum [a]**
Nitrate as N	10 mg/L
Nitrite as N	1 mg/L
Arsenic	10 μg/L
Cadmium	5 μg/L
Chromium	100 μg/L
Fluoride	2 mg/L
Mercury	2 μg/L
Nickel	100 μg/L
Total Trihalomethanes (TTHM)	80 μg/L
Other Groundwater Criteria	**Sample Maximum [a]**
Total Dissolved Solids	500 mg/L

GROUND WATER ENFORCEMENT LIMITATIONS AT WCC-1 AND MW-9:	
Chloride	250 mg/L
Sulfate	250 mg/L
Copper	1000 μg/L
Lead	50 μg/L
Manganese	50 μg/L
Silver	50 μg/L
Zinc	5000 μg/L
[a] The sample maximum is the highest allowable concentration for any sample as measured in the ground water at the top of the uppermost aquifer beneath or down gradient of the infiltration site.	
In the event of an exceedance of a groundwater enforcement limit, the Permittee shall: 1. Provide immediate verbal notification to Ecology's Southwest Regional Office, Water Quality Program. 2. Resample the well within 48 hours of receiving the laboratory report; 3. Provide written notification with the next monitoring report; and 4. Prepare a report documenting conditions and describing action taken and planned to reduce the level to below the enforcement limit as measured at the point of compliance.	

S2. MONITORING REQUIREMENTS

A. Influent Monitoring

The sampling point for the influent will be at the headworks.

The Permittee shall monitor the wastewater influent according to the following schedule (see Appendix 1 for analytical methods and detection levels):

Parameter	Units	Sampling Frequency	Sample Type
Flow	MGD	Continuous*	Recording meter
BOD_5	mg/L lbs/day	Weekly	24-hour composite
TSS	mg/L lbs/day	Weekly	24-hour composite
pH	Standard Units	Daily	Grab

* Continuous means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. Sampling shall be taken every 4 hours when continuous monitoring is not possible.

B. Class A Reclaimed Water Monitoring

The Permittee shall monitor the reclaimed water according to the following schedule (see Appendix 1 for analytical methods and detection levels):

Parameter	Units	Sample Point [a]	Sampling Frequency	Sample Type
Flow	MGD	Disinfected Reclaimed Water	Continuous	Recording meter
BOD_5	mg/L	Disinfected Reclaimed Water	Weekly	24-hour composite
BOD_5	lbs/day	Disinfected Reclaimed Water	Weekly	Calculation
BOD_5	% removal	Disinfected Reclaimed Water	Weekly	Calculation
TSS	mg/L	Disinfected Reclaimed Water	Daily	24-hour composite
TSS	lbs/day	Disinfected Reclaimed Water	Weekly	Calculation
TSS	% removal	Disinfected Reclaimed Water	Weekly	Calculation
pH	Standard Units	Disinfected Reclaimed Water	Daily	Grab [b]
Dissolved Oxygen	mg/L	Disinfected Reclaimed Water	Daily	Grab [b]
Temperature	Celsius	Disinfected Reclaimed Water	Daily	Grab [b]
Turbidity	NTU	Reclaimed Water prior to disinfection	Continuous [c]	Recording meter
Total Nitrogen (as N)	mg/L	Disinfected reclaimed water	Monthly	24-hour composite
Ammonia (as N)	mg/L	Disinfected reclaimed water	Monthly	24-hour composite
Nitrate (as N)	mg/L	Disinfected reclaimed water	Monthly	24-hour composite

Parameter	Units	Sample Point [a]	Sampling Frequency	Sample Type
Total Coliform [d]	No. of org. per 100 ml	Disinfected reclaimed water	Daily	Grab [b]
Free Chlorine Residual	mg/L	Water Reuse Distribution Line	Daily (when in use)	Grab [b]
Priority Pollutants, as listed in Appendix 1	mg/L or µg/L	Disinfected reclaimed water	Once per permit cycle	Grab and 24-hour composite, as appropriate
[a] Disinfected reclaimed water samples shall be taken at the effluent basin.				
[b] Grab samples shall be taken at the same time daily when wastewater characteristics are the most demanding on the treatment facilities and disinfection processes.				
[c] Effluent turbidity analysis shall be performed by a continuous recording turbidimeter and shall also be read and recorded at least every four hours.				
[d] As an alternate method, total coliform bacteria may be monitored using the ONPUG-MUG test (also called Autoanalysis Colilert System) per latest edition of Standard Methods for the Examination of Water and Wastewater.				

C. Ground Water Monitoring

The sampling points for ground water will be WCC-1, WCC-2, MW-6, and MW-9

The Permittee shall monitor the ground water according to the following schedule (see Appendix 1 for analytical methods and detection levels):

Parameter	Units	Minimum Sampling Frequency	Sample Type
Static well water elevation	Feet above sea level	Quarterly [a]	Field Measurement
Temperature	°C	Quarterly [a]	Field Measurement
Dissolved Oxygen	mg/L	Quarterly [a]	Grab
pH	Standard Units	Quarterly [a]	Field Measurement
Conductivity	umhos/cm	Quarterly [a]	Grab
Nitrate NO_3 (as N)	mg/L	Quarterly [a]	Grab
Nitrite NO_2 (as N)	mg/L	Quarterly [a]	Grab
TKN (as N)	mg/L	Quarterly [a]	Grab
Total Dissolved Solids	mg/L	Quarterly [a]	Grab

Parameter	Units	Minimum Sampling Frequency	Sample Type
Total Coliform Bacteria	cfu/100 ml	Quarterly [a]	Grab
Chloride	mg/L	Quarterly [a]	Grab
Cations/Anions: Calcium, Magnesium, Potassium, Sodium, Bicarbonate, Carbonate, Fluoride, Sulfate	mg/L	Yearly [b]	Grab
Total Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel, Silver, Zinc	µg/L	Yearly [b]	Grab
Total Trihalomethanes (TTHM)	µg/L	Quarterly [a]	Grab
[a] Quarterly is defined as: Reporting with March, June, September, and December DMRs.			
[b] Yearly is defined as reporting with March DMR.			

D. Sampling and Analytical Procedures

Samples and measurements taken to meet the requirements of this permit shall be representative of the volume and nature of the monitored parameters, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets and maintenance-related conditions affecting effluent quality.

Ground water sampling shall conform to the latest protocols in the *Implementation Guidance for the Ground Water Quality Standards*, (Ecology 2005).

Sampling and analytical methods used to meet the water and wastewater monitoring requirements specified in this permit shall conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 Code of Federal Regulations (CFR) Part 136 or to the latest revision of *Standard Methods for the Examination of Water and Wastewater* (APHA), unless otherwise specified in this permit or approved in writing by the Department of Ecology (Ecology).

E. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the quantity of monitored flows. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements are consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with manufacturer's recommendations and at a minimum frequency of

at least one calibration per year. Calibration records shall be maintained for at least three years.

F. Instrument Calibration

Monitoring devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements are consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with the manufacturer's recommendations. Calibration records shall be maintained for at least three years.

G. Laboratory Accreditation

All monitoring data required by Ecology shall be prepared by a laboratory registered or accredited under the provisions of, *Accreditation of Environmental Laboratories*, Chapter 173-50 Washington Administrative Code (WAC). Flow, temperature, settleable solids, turbidity and internal process control parameters except those listed in Condition S2 are exempt from this requirement.

S3. REPORTING AND RECORDKEEPING REQUIREMENTS

The Permittee shall monitor and report in accordance with the following conditions. The falsification of information submitted to Ecology shall constitute a violation of the terms and conditions of this permit.

A. Reporting

The first monitoring period begins on the effective date of the permit. Monitoring results shall be submitted monthly. Monitoring data obtained during the previous month shall be summarized and reported on a form provided, or otherwise approved, by Ecology, and be received no later than the 15th day of the month following the completed reporting period, unless otherwise specified in this permit. Priority pollutant analysis data shall be submitted no later than 45 days following the reporting period. The report(s) shall be sent to the following:

1. Water Quality Permit Coordinator, Department of Ecology, Southwest Regional Office, P.O. Box 47775, Olympia, Washington 98504-7775.

2. Department of Health, Wastewater Management Program, 16201 E. Indiana Ave, Suite 1500, Spokane Valley, Washington 99216.

Discharge Monitoring Report forms must be submitted monthly whether or not the facility was discharging or reclaiming water. If there was no discharge or the facility was not operating during a given monitoring period, submit the form as required with the words "no discharge" entered in place of the monitoring results. If there was no reuse during a given monitoring period, submit the form as required with the words "no reclamation or reuse" entered in place of the monitoring results.

All laboratory reports providing data for organic and metal parameters must include the following information: sampling date, sample location, date of analysis, parameter name, CAS number, analytical method/number, method detection limit (MDL), laboratory practical quantitation limit (PQL), reporting units, and concentration detected. Analytical

results from samples sent to a contract laboratory must include information on the chain of custody, the analytical method, QA/QC results, and documentation of accreditation for the parameter.

B. Records Retention

The Permittee must retain records of all monitoring information for a minimum of three years. Such information must include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

The Permittee shall retain all records pertaining to the monitoring of sludge for a minimum of five years.

C. Recording of Results

For each measurement or sample taken, the Permittee must record the following information:

1. The date, exact place and time of sampling.

2. The individual who performed the sampling or measurement.

3. The dates the analyses were performed.

4. The individual who performed the analyses.

5. The analytical techniques or methods used.

6. The results of all analyses.

D. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by this permit using test procedures specified by Condition S2 of this permit, then the results of this monitoring shall be included in calculation and reporting of the data submitted in the Permittee's self-monitoring reports.

E. Noncompliance Notification

In the event the Permittee is unable to comply with any of the permit terms and conditions due to any cause, the Permittee shall:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the violation, and correct the problem;

2. If applicable, immediately repeat sampling and analysis of any violation and submit the results to Ecology within 30 days after becoming aware of the violation;

3. Immediately, within 24 hours, notify the Departments of Health and Ecology at the numbers listed below of the failure to comply; and

Department of Ecology, Southwest Regional Office	360-407-6300
Department of Health, Drinking Water Program	360-521-0323 (business hours) 360-481-4901 (after business hours)

4. Submit a detailed written report to Ecology within 30 days, unless requested earlier by Ecology, describing the nature of the violation, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of the resampling, and any other pertinent information.

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

F. Reclaimed Water Operational Records

1. Operating records shall be maintained at the reclamation treatment plant or within a central depository within the Permittee's operating agency. These records shall include: records of all analyses performed, records of operational problems, unit process and equipment breakdowns, and diversions to emergency storage or disposal; and all corrective or preventative action taken

2. Process or equipment failures triggering an alarm that is key to maintaining reliability of reclaimed water quality shall be recorded and maintained as a separate record file. The recorded information shall include the time and cause of failure and corrective action taken.

3. A monthly summary of operating records as specified above shall be submitted with the Discharge Monitoring Report form to the Departments of Ecology and Health at the address listed.

4. If the reclamation facility was not operating during a given monitoring period, submit the required reports with the words "no discharge" entered in place of the monitoring results.

G. Maintaining a Copy of This Permit

The Permittee must keep a copy of this permit at the facility and make it available upon request to Ecology inspectors.

S4. FACILITY LOADING

A. Design Criteria

Flows or waste loadings of the following design criteria for the permitted treatment facility shall not be exceeded:

Average flow for the maximum month:	0.4 MGD
BOD_5 loading for maximum month:	1,800 lbs/day
TSS loading for maximum month:	1,800 lbs/day
Total Nitrogen for maximum month	200 lbs/day

B. Plans for Maintaining Adequate Capacity

When the actual flow or wasteload reaches 85 percent of any one of the design criteria in S4.A for three consecutive months, or when the projected increases would reach design capacity within five years, whichever occurs first, the Permittee shall submit to Ecology, a plan and a schedule for continuing to maintain capacity at the facility sufficient to achieve the reclaimed water limitations and other conditions of this permit. This plan shall address any of the following actions or any others necessary to meet this objective.

1. Analysis of the present design including the introduction of any process modifications that would establish the ability of the existing facility to achieve the reclaimed water limits and other requirements of this permit at specific levels in excess of the existing design criteria specified in paragraph A above.

2. Reduction or elimination of excessive infiltration and inflow of uncontaminated ground and surface water into the sewer system.

3. Limitation on future sewer extensions or connections or additional wasteloads.

4. Modification or expansion of facilities necessary to accommodate increased flow or wasteload.

5. Reduction of industrial or commercial flows or waste loads to allow for increasing sanitary flow or wasteload.

Engineering documents associated with the plan must meet the requirements of WAC 173-240-060, "Engineering Report," and be approved by Ecology prior to any construction.

C. Wasteload Assessment

The Permittee shall conduct an annual assessment of their flow and waste load and submit a report to Ecology by **March 15, 2011**, and **annually** thereafter. The report shall contain the following: an indication of compliance or noncompliance with the permit effluent limitations; a comparison between the existing and design monthly average dry weather and wet weather flows, peak flows, BOD, and total suspended solids loadings; and (except for the first report) the percentage increase in these parameters since the last

annual report. The report shall also state the present and design population or population equivalent, projected population growth rate, and the estimated date upon which the design capacity is projected to be reached, according to the most restrictive of the parameters above. The interval for review and reporting may be modified if Ecology determines that a different frequency is sufficient.

S5. OPERATION AND MAINTENANCE (O&M)

The Permittee shall at all times be responsible for the proper operation and maintenance of any facilities or systems of control installed to achieve compliance with the terms and conditions of the permit.

A. Certified Operator

An operator certified for at least a Class III plant by the state of Washington shall be in responsible charge of the day-to-day operation of the wastewater treatment plant. An operator certified for at least a Class II plant shall be in charge during all regularly scheduled shifts.

B. O&M Program

The Permittee shall institute an adequate operation and maintenance program for their entire reclamation system. Maintenance records shall be maintained on all major electrical and mechanical components of the treatment plant, as well as the sewage system, pumping stations, distribution and use areas. Such records shall clearly specify the frequency and type of maintenance recommended by the manufacturer and shall show the frequency and type of maintenance performed. These maintenance records shall be available for inspection at all times.

1. At all times, the reclamation facility, distribution and use areas shall be maintained to ensure that all equipment is kept in a reliable operating condition.

2. A free chlorine residual of at least 0.5 mg/L shall be maintained in the reclaimed water during conveyance from the reclamation plant to the use area unless waived by the Departments of Health and Ecology.

3. Maintenance of a chlorine residual is not required in reclaimed water impoundments and storage ponds. At the discretion of the Departments of Health and Ecology, chlorine residual may not be required in reclaimed water distributed from storage ponds.

C. Short-term Reduction

If a Permittee contemplates a reduction in the level of treatment that would cause a violation of permit discharge limitations on a short-term basis for any reason, and such reduction cannot be avoided, the Permittee shall give written notification to Ecology, if possible, 30 days prior to such activities, detailing the reasons for, length of time of, and the potential effects of the reduced level of treatment. This notification does not relieve the Permittee of their obligations under this permit.

D. Electrical Power Failure

The Permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated wastes or wastes not treated in accordance with the requirements of this permit during electrical power failure at the water reclamation plant and/or sewage lift stations either by means of alternate power sources, standby generator, or retention of inadequately treated wastes. The Permittee shall maintain Adequate and Reliable Treatment for Class A reclaimed water in accordance with "Water Reclamation and Reuse Standards, September 1997." The power supply shall be provided with one of the following reliability features to assure that inadequately treated wastewater is not discharged to distribution or use areas:

1. An alarm and a standby power source.

2. An alarm and automatically actuated short-term storage or alternative disposal provisions. All equipment other than pump-back equipment shall be either independent of the normal power supply or provided with a standby power supply.

3. Automatically actuated long-term storage or disposal provisions. All equipment other than pump-back equipment shall be either independent of the normal power supply or provided with a standby power supply.

E. Prevent Connection of Inflow

The Permittee shall strictly enforce their sewer ordinances and not allow the connection of inflow (roof drains, foundation drains, etc.) to the sanitary sewer system.

F. Bypass Procedures

The Permittee shall immediately notify Ecology of any spill, overflow, or bypass from any portion of the collection or treatment system.

Bypass to the reclaimed water use area is prohibited except as included in Condition S.8, Reclaimed Water Use.

The bypass of wastes from any portion of the collection or treatment system is prohibited unless one of the following conditions (1, 2, or 3) applies:

1. Unavoidable Bypass -- Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

   If the resulting bypass from any portion of the treatment system results in noncompliance with this permit the Permittee shall notify Ecology in accordance with condition S3.E "Noncompliance Notification."

2. Anticipated Bypass That Has the Potential to Violate Permit Limits or Conditions. The Permittee shall notify Ecology at least 30 days before the planned date of bypass. The notice shall contain a description of the bypass and its cause; the duration of the bypass, including exact dates and times; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass. Ecology will consider the following:

   a. If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of the permit.

   b. If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.

   c. If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

   After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve or deny the request. The public shall be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Approval of a request to bypass will be by administrative order issued by Ecology under Revised Code of Washington (RCW) 90.48.120.

3. Bypass For Essential Maintenance Without the Potential to Cause Violation of Permit Limits or Conditions -- Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limitations or other conditions of the permit, or adversely impact public health as determined by Ecology prior to the bypass.

G. Operations and Maintenance (O&M) Manual

An O&M Manual shall be prepared by the Permittee in accordance with WAC 173-240-080 and be submitted to Ecology for approval by _____ ***(within 180 days after permit effective date***). The O&M Manual shall be reviewed by the Permittee at least annually. The Permittee shall confirm the review by letter and/or a manual update to Ecology by **March 15, 2011**, and **annually** thereafter. All manual changes or updates shall be submitted to Ecology whenever they are incorporated into the manual. The approved O&M Manual shall be kept available at the treatment plant.

The O&M Manual shall contain the treatment plant process control monitoring schedule. All operators shall follow the instructions and procedures of this manual.

In addition to the requirements of WAC 173-240-150(1) and (2), the manual shall include:

1. Emergency procedures for plant shutdown and cleanup in event of wastewater system upset or failure;

2. Irrigation system operational controls and procedures;

3. Protocols and procedures for ground water monitoring network sampling and testing;

4. Plant maintenance procedures;

5. Alarm condition response plan to ensure that no untreated or inadequately-treated wastewater will be delivered to reclaimed water use areas.

6. Discussion of the cross-connection control and inspection program, including who will be responsible for compliance and testing of the cross-connection control devices.

7. Operational Control Strategies for reclaimed water use areas.

S6. RESIDUAL SOLIDS

Residual solids include screenings, grit, scum, primary sludge, waste activated sludge and other solid waste. The Permittee shall store and handle all residual solids in such a manner so as to prevent their entry into state ground or surface waters. The Permittee shall not discharge leachate from residual solids to state surface or ground waters.

S7. PRETREATMENT

The Permittee shall work cooperatively with Ecology to ensure that all commercial and industrial users of the wastewater treatment system are in compliance with pretreatment regulations in 40 CFR Part 403 and any additional regulations that the Environmental Protection Agency (U.S. EPA) may promulgate under Section 307(b) (pretreatment) and 308 (reporting) of the Federal Clean Water Act.

A. Discharge Authorization Required

Significant commercial or industrial operations shall not be allowed to discharge wastes to the Permittee's sewerage system until they have received prior authorization from Ecology in accordance with Chapter 90.48 RCW and Chapter 173-216 WAC, as amended. The Permittee shall immediately notify Ecology of any proposed new sources of wastewater from significant commercial or industrial operations.

B. Prohibitions

A non-domestic discharger may not introduce into the Permittee's sewerage system any pollutant(s) that cause pass through or interference. Under 40 CFR 403.5(a), the Permittee must not authorize or knowingly allow the discharge of any pollutants into its treatment system which may be reasonably expected to cause pass through or interference, or which otherwise violate general or specific discharge prohibitions contained in 40 CFR Part 403.5 or WAC-173-216-060.

The following non-domestic discharges shall not be discharged into the Permittee's sewerage system.

1. Pollutants that create a fire or explosion hazard in the domestic wastewater facilities (including, but not limited to waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21).

2. Pollutants that will cause corrosive structural damage to the domestic wastewater facilities, but in no case discharges with pH lower than 5.0 standard units or greater than 11.0 standard units, unless the works are specifically designed to accommodate such discharges.

3. Solid or viscous pollutants in amounts that could cause obstruction to the flow in sewers or otherwise interfere with the operation of the Public Owned Treatment Works (POTW).

4. Any pollutant, including oxygen demanding pollutants, (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW.

5. Heat in amounts that will inhibit biological activity in the POTW resulting in interference, but in no case heat in such quantities such that the temperature at the POTW exceeds 40°C (104°F) unless Ecology, upon request of the Permittee, approves, in writing, alternate temperature limits.

6. Petroleum oil, non-biodegradable cutting oil, or products of mineral origin in amounts that will cause interference or pass through.

7. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity which may cause acute worker health and safety problems.

8. Any trucked or hauled pollutants, except at discharge points designated by the Permittee.

9. As provided by WAC 173-303-071(3)(a), discharges of dangerous wastes into the sewerage system by industrial or commercial users are prohibited unless the discharger has submitted an application for a State Waste Discharge Permit. The applicant must accurately describe the wastewater on a State Waste Discharge Permit Application for Industrial Discharges to a POTW (Ecology Form 040-177).

10. Noncontact cooling water in significant volumes.

11. Stormwater, and other direct inflow sources.

12. Wastewaters significantly affecting system hydraulic loading, which do not require treatment or would not be afforded a significant degree of treatment by the system.

C. Notification of Industrial User Violations

The Permittee shall notify Ecology if any non-domestic user violates the prohibitions listed in S7.B above.

S8. RECLAIMED WATER DISTRIBUTION AND USE

A. Authorized Uses and Locations

Beginning on the effective date and lasting through the expiration date of this permit, the Permittee is authorized to distribute water reclaimed in accordance with the terms and conditions of this permit for authorized uses.

The distribution by the Permittee of reclaimed water that does not meet the treatment, water quality and monitoring requirements established in this permit or the use of reclaimed water other than for authorized uses and locations listed in a Departments of Health and Ecology approved reclaimed water engineering report shall constitute a violation of the terms and conditions of this permit.

The Permittee may produce and distribute Class A reclaimed water for the following uses at the following locations:

Customer	Use	Location	Flow
City of Shelton – Sprayfield	Irrigation and groundwater recharge	North side of State Route 102 and north east of the WCC. 47.2485 N 123.190 W	Average: 0.3 MGD Maximum: 0.8 MGD
City of Shelton – Reclamation Plant	Supply to hose bibs, toilet flushing, plant processes, and irrigation	10891 State Route 101	Average: 0.033 MGD Maximum: 0.075 MGD
Washington State Patrol Academy	Flood the skid-pan training track, irrigation, vehicle washing, swimming pool filling, fire suppression, laundry, toilet flushing, tanker truck filling for DOT, de-ice and anti-ice make-up water, and general purpose wash-down water.	631 West Dayton-Airport Road	Average: 0.040 MGD
Department of Corrections	Irrigation, powerhouse uses, laundry, toilet flushing, and general purpose.	Washington Corrections Center (WCC)	Average: 0.12 MGD
Mason County	Irrigation, toilet flushing, fire suppression, tanker truck filling, and general purpose.	County Shop	Average: 0.025 MGD

B. Water Reuse Plan

The Permittee shall prepare a water reuse plan, which contains a summary description of the proposed water reuse system from the approved Engineering Report. The plan shall be submitted to the Departments of Health and Ecology by _____ ***(within 180 days after the permit effective date)***. The Permittee shall review the plan at least annually and the plan shall be updated whenever new uses or users are added to the distribution system. A copy of the revised plan shall be submitted to Ecology and Health. The plan shall contain, but not be limited to, the following:

1. Description of the reuse distribution system;

2. Identification of uses, users, location of reuse sites.

3. Evaluation of reuse sites, estimated volume of reclaimed water use, means of application, and for irrigation or surface percolation uses, the application rates, water balance, expected agronomic uptake, potential to impact ground water or surface water at the site, background water quality and hydrogeological information necessary to evaluate potential water quality impacts.

C. Bypass Prohibited

There shall be no bypassing of untreated or partially treated wastewater from the reclamation plant or any intermediate unit processes to the distribution system or point of use at any time. All reclaimed water being distributed for beneficial use must meet Class A requirements at all times. Substandard water not meeting Class A must be discharged only to the sprayfield.

The Departments of Ecology and Health shall be notified by telephone within 24 hours of any discharge not meeting Class A entering the distribution system. Substandard wastewater shall not be discharged to the reclaimed water use areas, other than the sprayfield. Once substandard water has entered the distribution system, discharge must continue only to the sprayfield until:

1. Class A requirements are again being met at the reclaimed water plant,

2. The distribution system has been flushed completely with water meeting Class A standards, and

3. Analysis at the end of the distribution system confirm the reclaimed water meets Class A standards for turbidity, total coliform, and total chlorine residual.

D. Reliability

The Permittee shall maintain the highest reliability class as described in the Water Reclamation and Reuse Standards which require one of the following features for each of the critical reclamation treatment unit processes of oxidation, filtration and disinfection:

1. Alarms and standby power source

2. Alarms and automatically actuated disposal provisions.

E. Use Area Responsibilities

1. A standard notification sign shall be developed by the Permittee using colors and verbiage approved by the state Department of Health. The signs shall be used in all reclaimed water use areas, consistent with the Water Reclamation and Reuse Standards.

2. Reclaimed water use, including runoff and spray shall be confined to the designated and approved use area.

3. The Permittee shall control industrial and toxic discharges to the sanitary sewer that may affect reclaimed water quality through either a delegated pretreatment program with the Department of Ecology or assuring all applicable discharges have permits issued under the Water Pollution Control Act, Chapter 90.48 RCW, and the State Waste Discharge Permit Regulation, Chapter 173-216 WAC.

4. Where the reclaimed water production, distribution and use areas are under direct control of the Permittee, the Permittee shall maintain control and be responsible for all facilities and activities inherent to the production, distribution and use of the reclaimed water. The Permittee shall ensure that the reuse system operates as approved by the Departments of Health and Ecology.

F. Service and Use Area Agreement

Where the reclaimed water additional treatment, distribution system or use area is not under direct control of the Permittee:

1. The person(s) who provides additional treatment, distributes, owns, or otherwise maintains control over the reclaimed water use area is responsible for reuse facilities and activities inherent to the production, distribution and use of the reclaimed water to ensure that the system operates as approved by the Departments of Health and Ecology in accordance with this Permit.

2. Reclaimed water use, including runoff and spray, shall be confined to the designated and approved use areas.

3. A binding Service and Use Area Agreement among the parties involved is required to ensure that construction, operation, maintenance, and monitoring meet all requirements of the Departments of Health and Ecology. This Service and Use Area Agreement must be consistent with the requirements of the Water Reclamation and Reuse Standards, 1997. A copy of each Service and Use Area Agreement must be submitted to and approved by the Departments of Health and Ecology prior to implementation.

4. The Service and Use Area Agreement shall provide the Permittee with authority to terminate service of reclaimed water to a customer violating the state's Water Reclamation and Reuse Standards and restrictions outlined in the reclaimed water use agreement. The Service and Use Area Agreements shall be approved by the

Departments of Health and Ecology prior to the distribution of any reclaimed water.

5. No reclaimed water shall be distributed by the Permittee without a Service and Use Area Agreement approved by the Departments of Health and Ecology.

G. Reclaimed Water Ordinance

The Permittee shall complete a local ordinance to include policies and procedures for the distribution and delivery of reclaimed water. The ordinance shall provide the Permittee with the authority to terminate service of reclaimed water from any customer violating the state Water Reclamation and Reuse Standards and restrictions outlined in the service and use agreement.

H. Irrigation Use

1. For any irrigation use of reclaimed water, the hydraulic loading rate of reclaimed water shall be determined based on a water balance analysis.

2. There shall be no runoff of reclaimed water applied to land by spray irrigation to any surface waters of the state or to any land not authorized by approved Service and Use Area Agreement.

3. There shall be no application of reclaimed water for irrigation purposes when the ground is saturated or frozen.

4. The reclaimed water shall not be applied to the irrigation lands in quantities that:

   a. Significantly reduce or destroy the long-term infiltration rate of the soil.

   b. Cause long-term anaerobic conditions in the soil.

   c. Cause ponding of reclaimed water and produce objectionable odors or support insects or vectors.

   d. Cause leaching losses of constituents of concern beyond the treatment zone or in excess of the approved design. Constituents of concern are constituents in the reclaimed water, partial decomposition products, or soil constituents that would alter ground water quality in amounts that would affect current and future beneficial uses.

The Permittee shall maintain all irrigation agreements for lands not owned for the duration of the permit. The Permittee shall inform the Departments of Health and Ecology in writing of any proposed changes to existing agreements.

I. Surface Percolation Use

1. For any surface percolation of reclaimed water, the hydraulic loading rate shall be determined based on a water balance.

2. Background/natural groundwater quality must be documented and sampling locations identified and approved by Ecology.

3. Surface waters shall not be impaired due to the infiltration of reclaimed water.

S9. APPLICATION FOR PERMIT RENEWAL

The Permittee must apply for permit renewal by _____.

GENERAL CONDITIONS

G1. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to Ecology must be signed as follows:

A. All permit applications must be signed by either a principal executive officer or ranking elected official.

B. All reports required by this permit and other information requested by Ecology must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by the person described above and is submitted to Ecology at the time of authorization, and

2. The authorization specifies either a named individual or any individual occupying a named position.

C. Changes to authorization. If an authorization under paragraph B.2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this section must make the following certification:

> "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G2. RIGHT OF ENTRY

Representatives of Ecology have the right to enter at all reasonable times in or upon any property, public or for the purpose of inspecting and investigating conditions relating to the pollution or the possible pollution of any waters of the state. Reasonable times include normal business hours; hours during which production, treatment, or discharge occurs; or times when Ecology suspects a violation requiring immediate inspection. Representatives of Ecology must be allowed to have access to, and copy at reasonable cost, any records required to be kept under terms and conditions of the permit; to inspect any monitoring equipment or method required in the permit; and to sample the discharge, waste treatment processes, or internal waste streams.

G3. PERMIT ACTIONS

This permit is subject to modification, suspension, or termination, in whole or in part by Ecology for any of the following causes:

A. Violation of any permit term or condition;

B. Obtaining a permit by misrepresentation or failure to disclose all relevant facts;

C. A material change in quantity or type of waste disposal;

D. A material change in the condition of the waters of the state; or

E. Nonpayment of fees assessed pursuant to RCW 90.48.465.

Ecology may also modify this permit, including the schedule of compliance or other conditions, if it determines good and valid cause exists, including promulgation or revisions of regulations or new information.

G4. REPORTING A CAUSE FOR MODIFICATION

The Permittee must submit a new application at least 60 days before it wants to discharge more of any pollutant, a new pollutant, or more flow than allowed under this permit. The Permittee should use the Reclaimed Water Permit application, and submit required plans at the same time. Required plans include an Engineering Report, Plans and Specifications, and an Operations and Maintenance manual, (see Chapter 173-240 WAC). Ecology may waive these plan requirements for small changes, so contact Ecology if they do not appear necessary. The Permittee must obtain the written concurrence of the receiving POTW on the application before submitting it to Ecology. The Permittee must continue to comply with the existing permit until it is modified or reissued. Submitting a notice of dangerous waste discharge (to comply with Pretreatment or Dangerous Waste rules) triggers this requirement as well.

G5. PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications must be submitted to Ecology for approval in accordance with Chapter 173-240 WAC. Engineering reports, plans, and specifications should be submitted at least 180 days prior to the planned start of construction. Facilities must be constructed and operated in accordance with the approved plans.

G6. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in the permit excuses the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. TRANSFER OF THIS PERMIT

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the Permittee must notify the succeeding owner or controller of the existence of this permit by letter, a copy of which must be forwarded to Ecology.

A. Transfers by Modification

Except as provided in paragraph (B) below, this permit may be transferred by the Permittee to a new owner or operator only if this permit has been modified or revoked and reissued under 40 CFR 122.62(b)(2), or a minor modification made under 40 CFR 122.63(d), to identify the new Permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

B. Automatic Transfers

This permit may be automatically transferred to a new Permittee if:

1. The Permittee notifies Ecology at least 30 days in advance of the proposed transfer date.

2. The notice includes a written agreement between the existing and new Permittees containing a specific date transfer of permit responsibility, coverage, and liability between them.

3. Ecology does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under this subparagraph may also be minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

G8. PAYMENT OF FEES

The Permittee must submit payment of fees associated with this permit as assessed by Ecology. Ecology may revoke this permit if the permit fees established under Chapter 173-224 WAC are not paid.

G9. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit is guilty of a crime, and upon conviction thereof may be punished by a fine of up to $10,000 and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a reclaimed water permit incurs, in addition to any other penalty as provided by law, a civil penalty in the amount of up to $10,000 for every such violation. Each and every such violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance is considered a separate and distinct violation.

G10. DUTY TO PROVIDE INFORMATION

The Permittee must submit to Ecology, within a reasonable time, all information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology upon request, copies of records required to be kept by this permit.

G11. DUTY TO COMPLY

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G12. CONTRACT REVIEW

The Permittee must submit to Ecology any proposed contract for the operation of any wastewater treatment facility covered by this permit. The review is to ensure consistency with chapters 90.46 and 90.48 RCW. In the event that Ecology does not comment within a 30-day period, the Permittee may assume consistency and proceed with the contract.

APPENDIX 1
EFFLUENT CHARACTERIZATION FOR POLLUTANTS
THIS LIST INCLUDES EPA REQUIRED POLLUTANTS (PRIORITY POLLUTANTS) AND SOME ECOLOGY PRIORITY TOXIC CHEMICALS (PBTs)

The following table with analytical methods and levels is to be used as guidance for effluent characterization in NPDES permit applications, applications for permit renewal, and monitoring required by permit. This attachment is used in conjunction with Section V, Parts A, B, and C of EPA Application Form 2C, Parts A.12, B.6, and D of EPA application form 2A and with State applications. This attachment specifies effluent characterization requirements of the Department of Ecology. For application, analyze your wastewater for all parameters required by the application and any additional pollutants with an X in the left column. The data should be compiled from last year's data if it is a parameter routinely measured. If you are a primary industry category with effluent guidelines you may have some mandatory testing requirements (see Table 2C-2 of Form 2C). If you are a municipal POTW you also have some mandatory testing requirements which are dependent upon the design flow (see EPA form 2A).

The permit applications will specify the groups of compounds to be analyzed. Ecology may require additional pollutants to be analyzed within a group. The objectives are to reduce the number of analytical "non-detects" in applications and to measure effluent concentrations near or below criteria values where possible at a reasonable cost. If an applicant or Permittee knows that an alternate, less sensitive method (higher DL and QL) from 40 CFR Part 136 is sufficient to produce measurable results in their effluent, that method may be used for analysis.

	Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)**[2] ***µg/L unless specified***	**Quantitation Level (QL)** [3] ***µg/L unless specified***
[1]	**CONVENTIONALS**			
	Biochemical Oxygen Demand	SM5210-B		2 mg/L
	Chemical Oxygen Demand	SM5220-D		10 mg/L
X	Total Organic Carbon	SM5310-B/C/D		1 mg/L
	Total Suspended Solids	SM2540-D		5 mg/L
	Total Ammonia (as N)	SM4500-NH3- GH		0.3 mg/L
	Flow	Calibrated device		
	Dissolved oxygen	4500-OC/OG		0.2 mg/L
	Temperature (max. 7-day avg.)	Analog recorder or Use micro-recording devices known as thermistors		0.2º C
	pH	SM4500-H^+ B	N/A	N/A
X [1]	**NONCONVENTIONALS**			
	Total Alkalinity	SM2320-B		5 mg/L as CaCo3
	Bromide (24959-67-9)	4110 B	100	400
	Chlorine, Total Residual	4500 Cl G		50.0
	Color	SM2120 B/C/E		10 color unit
	Fecal Coliform	SM 9221E	N/A	N/A
	Fluoride (16984-48-8)	SM4500-F E	25	100

	Pollutant & CAS No. *(if available)*	Recommended Analytical Protocol	Detection (DL)[2] *µg/L unless specified*	Quantitation Level (QL)[3] *µg/L unless specified*
	Nitrate-Nitrite (as N)	4500-NO3- E/F/H		100
	Nitrogen, Total Kjeldahl (as N)	4500-NH3-C/E/FG		300
	Ortho-Phosphate (PO_4 as P)	4500- PE/PF	30	100
	Phosphorus, Total (as P)	4500-PE/PF	30	100
	Oil and Grease (HEM)	1664A		5,000
	Salinity	SM2520-B		3 PSS
	Settleable Solids	SM2540 -F		100
	Sulfate (as mg/L SO_4)	SM4110-B		200
	Sulfide (as mg/L S)	4500-S^2F/D/E/G		200
	Sulfite (as mg/L SO_3)	SM4500-SO3B		2000
	Surfactants	SM5540 C		50
	Total dissolved solids	SM2540 C		20 mg/L
	Total Hardness	2340B		200 as CaCO3
	Aluminum, Total (7429-90-5)	200.8	2.0	10
	Barium Total (7440-39-3)	200.8	0.5	2.0
	Boron Total (7440-42-8)	200.8	2.0	10.0
	Cobalt, Total (7440-48-4)	200.8	0.05	0.25
	Iron, Total (7439-89-6)	200.8	12.5	50
	Magnesium, Total (7439-95-4)	200.8	10	50
	Molybdenum, Total (7439-98-7)	200.8	0.1	0.5
	Manganese, Total (7439-96-5)	200.8	0.1	0.5
	Tin, Total (7440-31-5)	200.8	0.3	1.5
	Titanium, Total (7440-32-6)	200.8	0.5	2.5
X[1]	**METALS, CYANIDE & TOTAL PHENOLS**			
	Antimony, Total (7440-36-0)	200.8	0.3	1.0
	Arsenic, Total (7440-38-2)	200.8	0.1	0.5
	Beryllium, Total (7440-41-7)	200.8	0.1	0.5
	Cadmium, Total (7440-43-9)	200.8	0.05	0.25
	Chromium (hex) dissolved (185-402-99)	SM3500-Cr EC	0.3	1.2
	Chromium, Total (7440-47-3)	200.8	0.2	1.0
	Copper, Total (7440-50-8)	200.8	0.4	2.0
	Lead, Total (7439-92-1)	200.8	0.1	0.5
	Mercury, Total (7439-97-6)	1631E	0.0002	0.0005
	Nickel, Total (7440-02-0)	200.8	0.1	0.5
	Selenium, Total (7782-49-2)	200.8	1.0	1.0
	Silver, Total (7440-22-4)	200.8	0.04	0.2
	Thallium, Total (7440-28-0)	200.8	0.09	0.36
	Zinc, Total (7440-66-6)	200.8	0.5	2.5
	Cyanide, Total (7440-66-6)	335.4	5	10
	Cyanide, Available	SM4500-CN G	5	10

	Pollutant & CAS No. *(if available)*	Recommended Analytical Protocol	Detection (DL)[2] *µg/L unless specified*	Quantitation Level (QL)[3] *µg/L unless specified*
	Phenols, Total	EPA 420.1		50
	DIOXIN			
	2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (176-40-16)	1613B	1.3 pg/L	5 pg/L
X[1]	**VOLATILE COMPOUNDS**			
	Acrolein (107-02-8)	624	5	10
	Acrylonitrile (107-13-1)	624	1.0	2.0
	Benzene (71-43-2)	624	1.0	2.0
	Bis(2-Chloroethyl)ether (111-44-4)	611/625	1.0	2.0
	Bis(2-Chloroisopropyl) ether (108-60-1)	611/625	1.0	2.0
	Bromoform (75-25-2)	624	1.0	2.0
	Carbon tetrachloride (108-90-7)	624/601 or SM6230B	1.0	2.0
	Chlorobenzene (108-90-7)	624	1.0	2.0
	Chloroethane (75-00-3)	624/601	1.0	2.0
	2-Chloroethylvinyl Ether (110-75-8)	624	1.0	2.0
	Chloroform (67-66-3)	624 or SM6210B	1.0	2.0
	Dibromochloromethane (124-48-1)	624	1.0	2.0
	1,2-Dichlorobenzene (95-50-1)	624	1.9	7.6
	1,3-Dichlorobenzene (541-73-1)	624	1.9	7.6
	1,4-Dichlorobenzene (106-46-7)	624	4.4	17.6
	3,3'-Dichlorobenzidine (91-94-1)	605/625	0.5	1.0
	Dichlorobromomethane (75-27-4)	624	1.0	2.0
	1,1-Dichloroethane (75-34-3)	624	1.0	2.0
	1,2-Dichloroethane (107-06-2)	624	1.0	2.0
	1,1-Dichloroethylene (75-35-4)	624	1.0	2.0
	1,2-Dichloropropane (78-87-5)	624	1.0	2.0
	1,3-dichloropropylene (mixed isomers) (542-75-6)	624	1.0	2.0
	Ethylbenzene (100-41-4)	624	1.0	2.0
	Methyl bromide (74-83-9) (Bromomethane)	624/601	5.0	10.0

	Pollutant & CAS No. *(if available)*	Recommended Analytical Protocol	Detection (DL)[2] *µg/L unless specified*	Quantitation Level (QL)[3] *µg/L unless specified*
	Methyl chloride (74-87-3) (Chloromethane)	624	1.0	2.0
	Methylene chloride (75-09-2)	624	5.0	10.0
	1,1,2,2-Tetrachloroethane (79-34-5)	624	1.9	2.0
	Tetrachloroethylene (127-18-4)	624	1.0	2.0
	Toluene (108-88-3)	624	1.0	2.0
	1,2-Trans-Dichloroethylene (156-60-5) (Ethylene dichloride)	624	1.0	2.0
	1,1,1-Trichloroethane (71-55-6)	624	1.0	2.0
	1,1,2-Trichloroethane (79-00-5)	624	1.0	2.0
	Trichloroethylene (79-01-6)	624	1.0	2.0
	Vinyl chloride (75-01-4)	624/SM6200B	1.0	2.0
X[1]	**ACID COMPOUNDS**			
	2-Chlorophenol (95-57-8)	625	1.0	2.0
	2,4-Dichlorophenol (120-83-2)	625	0.5	1.0
	2,4-Dimethylphenol (105-67-9)	625	0.5	1.0
	4,6-dinitro-o-cresol (534-52-1) (2-methyl-4,6,-dinitrophenol)	625/1625B	1.0	2.0
	2,4 dinitrophenol (51-28-5)	625	1.0	2.0
	2-Nitrophenol (88-75-5)	625	0.5	1.0
	4-nitrophenol (100-02-7)	625	0.5	1.0
	Parachlorometa cresol (59-50-7) (4-chloro-3-methylphenol)	625	1.0	2.0
	Pentachlorophenol (87-86-5)	625	0.5	1.0[10]
	Phenol (108-95-2)	625	2.0	4.0
	2,4,6-Trichlorophenol (88-06-2)	625	2.0	4.0
X[1]	**BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)**			
	Acenaphthene (83-32-9)	625	0.2	0.4
	Acenaphtylene (208-96-8)	625	0.3	0.6
	Anthracene (120-12-7)	625	0.3	0.6
	Benzidine (92-87-5)	625	12	24
	Benzyl butyl phthalate (85-68-7)	625	0.3	0.6

	Pollutant & CAS No. *(if available)*	Recommended Analytical Protocol	Detection (DL)[2] *µg/L unless specified*	Quantitation Level (QL)[3] *µg/L unless specified*
	Benzo(*a*)anthracene (56-55-3)	625	0.3	0.6
	Benzo(j)fluoranthene (205-82-3)	625	0.5	1.0
	Benzo(r,s,t)pentaphene (189-55-9)	625	0.5	1.0
	Benzo(*a*)pyrene (50-32-8)	610/625	0.5	1.0
	3,4-benzofluoranthene (Benzo(b)fluoranthene) (205-99-2)	610/625	0.8	1.6
	11,12-benzofluoranthene (Benzo(k)fluoranthene) (207-08-9)	610/625	0.8	1.6
	Benzo(*ghi*)Perylene (191-24-2)	610/625	0.5	1.0
	Bis(*2-chloroethoxy)*methane (111-91-1)	625	5.3	21.2
	Bis(*2-chloroethyl*)ether (111-44-4)	611/625	0.3	1.0
	Bis(*2-chloroisopropyl*)ether (108-60-1)	625	0.3	0.6
	Bis(*2-ethylhexyl*)phthalate (117-81-7)	625	0.1	0.5
	4-Bromophenyl phenyl ether (101-55-3)	625	0.2	0.4
	2-Chloronaphthalene (91-58-7)	625	0.3	0.6
	4-Chlorophenyl phenyl ether (7005-72-3)	625	0.3	0.5
	Chrysene (218-01-9)	610/625	0.3	0.6
	Dibenzo (a,j)acridine (224-42-0)	610M/625M	2.5	10.0
	Dibenzo (a,h)acridine (226-36-8)	610M/625M	2.5	10.0
	Dibenzo(a-*h*)anthracene (53-70-3)(1,2,5,6-dibenzanthracene)	625	0.8	1.6
	Dibenzo(a,e)pyrene (192-65-4)	610M/625M	2.5	10.0
	Dibenzo(a,h)pyrene (189-64-0)	625M	2.5	10.0
	3,3'-Dichlorobenzidine (91-94-1)	605/625	0.5	1.0
	Diethyl phthalate (84-66-2)	625	1.9	7.6
	Dimethyl phthalate (131-11-3)	625	1.6	6.4
	Di-n-butyl phthalate (84-74-2)	625	0.5	1.0

	Pollutant & CAS No. *(if available)*	Recommended Analytical Protocol	Detection (DL)[2] *µg/L unless specified*	Quantitation Level (QL)[3] *µg/L unless specified*
	2,4-dinitrotoluene (121-14-2)	609/625	0.2	0.4
	2,6-dinitrotoluene (606-20-2)	609/625	0.2	0.4
	Di-n-octyl phthalate (117-84-0)	625	0.3	0.6
	1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7)	1625B	5.0	20
	Fluoranthene (206-44-0)	625	0.3	0.6
	Fluorene (86-73-7)	625	0.3	0.6
	Hexachlorobenzene (118-74-1)	612/625	0.3	0.6
	Hexachlorobutadiene (87-68-3)	625	0.5	1.0
	Hexachlorocyclopentadiene (77-47-4)	1625B/625	0.5	1.0
	Hexachloroethane (67-72-1)	625	0.5	1.0
	Indeno(*1,2,3-cd*)Pyrene (193-39-5)	610/625	0.5	1.0
	Isophorone (78-59-1)	625	0.5	1.0
	3-Methyl cholanthrene (56-49-5)	625	2.0	8.0
	Naphthalene (91-20-3)	625	0.3	0.6
	Nitrobenzene (98-95-3)	625	0.5	1.0
	N-Nitrosodimethylamine (62-75-9)	607/625	2.0	4.0
	N-Nitrosodi-n-propylamine (621-64-7)	607/625	0.5	1.0
	N-Nitrosodiphenylamine (86-30-6)	625	0.5	1.0
	Perylene (198-55-0)	625	1.9	7.6
	Phenanthrene (85-01-8)	625	0.3	0.6
	Pyrene (129-00-0)	625	0.3	0.6
	1,2,4-Trichlorobenzene (120-82-1)	625	0.3	0.6
X[1]	**PESTICIDES/PCBs**			
	Aldrin (309-00-2)	608	0.025	0.05
	alpha-BHC (319-84-6)	608	0.025	0.05
	beta-BHC (319-85-7)	608	0.025	0.05
	gamma-BHC (58-89-9)	608	0.025	0.05
	delta-BHC (319-86-8)	608	0.025	0.05
	Chlordane (57-74-9)	608	0.025	0.05
	4,4'-DDT (50-29-3)	608	0.025	0.05
	4,4'-DDE (72-55-9)	608	0.025	0.05[10]
	4,4' DDD (72-54-8)	608	0.025	0.05
	Dieldrin (60-57-1)	608	0.025	0.05

	Pollutant & CAS No. *(if available)*	Recommended Analytical Protocol	Detection (DL)[2] *µg/L unless specified*	Quantitation Level (QL)[3] *µg/L unless specified*
	alpha-Endosulfan (959-98-8)	608	0.025	0.05
	beta-Endosulfan (33213-65-9)	608	0.025	0.05
	Endosulfan Sulfate (1031-07-8)	608	0.025	0.05
	Endrin (72-20-8)	608	0.025	0.05
	Endrin Aldehyde (7421-93-4)	608	0.025	0.05
	Heptachlor (76-44-8)	608	0.025	0.05
	Heptachlor Epoxide (1024-57-3)	608	0.025	0.05
	PCB-1242 (53469-21-9)	608	0.25	0.5
	PCB-1254 (11097-69-1)	608	0.25	0.5
	PCB-1221 (11104-28-2)	608	0.25	0.5
	PCB-1232 (11141-16-5)	608	0.25	0.5
	PCB-1248 (12672-29-6)	608	0.25	0.5
	PCB-1260 (11096-82-5)	608	0.13	0.5
	PCB-1016 (12674-11-2)	608	0.13	0.5
	Toxaphene (8001-35-2)	608	0.24	0.5

1. An X placed in this box means you must analyze for all pollutants in the group.

2. Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99 percent confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.

3. Quantitation Level (QL) is equivalent to EPA's Minimum Level (ML) which is defined in 40 CFR Part 136 as the minimum level at which the entire GC/MS system must give recognizable mass spectra (background corrected) and acceptable calibration points. These levels were published as proposed in the Federal Register on March 28, 1997.